

NOT FOR DEPLETION TESTING



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

PRELIMINARY ISSUE

D130-1048-141
Job Sheet 182067

Accounting Job RD17-1048-01



Part No: D130-1048-141

Job Qty: 1 ea

Part Name: EC130 Fwd Crosstube



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 8/16/18

Job Tracking No:

POSITIVE RECALL

Due Date: 8/30/18

Created By: Marie Lajeunesse

EFFECTIVE 8-01-24 AUTH MJS

Type: R+D

Description:

RELEASED 9-09-18 DATE 18-05-18

Note: D130-1048-141 REV.PRELIM-A7 IPP REV:A 18.07.19 NEW ISSUE DD VERF:JFS

Ship Via:

D-05
Per A
ECW13-817

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Start up Operation	1 Ea	8/30/18	8/30/18	0.00	0.00	Start Up Crosstubes-2		GP 2018-09-26
110	Crosstubes	1 pcs	8/30/18	8/30/18	0.00	1.00	Crosstubes-3		GP 2018-09-26
120	QC	1 pcs	8/30/18	8/30/18	0.00	0.00	QC15		
130	Outsource	1 pcs	8/30/18	8/30/18	0.00	0.00	Outsource2		CTR-9-25
140	Packaging	1 pcs	8/30/18	8/30/18	0.00	0.00	Packaging2		SEP 27 2018
150	QC	1 pcs	8/30/18	8/30/18	0.00	0.00	QC6		D18-09-28
160	Crosstubes	1 pcs	8/30/18	8/30/18	0.00	1.00	Crosstubes-3		DD 18-10-05
170	QC	1 pcs	8/30/18	8/30/18	0.00	0.00	QC15		OCT 04 2018
172	Outsource	1 pcs	8/30/18	8/30/18	0.00	0.00	Outsource2		N/A
174	Packaging	1 pcs	8/30/18	8/30/18	0.00	0.00	Packaging2		N/A
176	QC	1 pcs	8/30/18	8/30/18	0.00	0.00	QC6		N/A
180	HandFinish	1 pcs	8/30/18	8/30/18	0.00	0.33	HandFinish1		N/A
185	QC	1 pcs	8/30/18	8/30/18	0.00	0.00	QC7-5		N/A
190	SprayPaint	1 pcs	8/30/18	8/30/18	0.00	1.00	Spray Paint		N/A
200	QC	1 pcs	8/30/18	8/30/18	0.00	0.00	QC14		N/A
210	Packaging	1 pcs	8/30/18	8/30/18	0.00	0.00	Packaging3-2		N/A
220	QC21-SA	1 Ea	8/30/18	8/30/18	0.00	0.00	QC21		cm 2018.10.04

DAS
13
9-89

Not reg'd
for testing
9-18.10.03

Part Op 110 - BUFF AND REMOVE ALL MARK AS PER DWG

Descriptions: 130 - ISSUE P/O: 041100 NDT C OF C IS REQUIRED

160 - 1-Drill rivet holes in cuff using DT10428 as per DWG sections D-D and E-E. ***Use DT8550 as center support ***

2-Drill and ream holes sections B-B as per DWG using DT10436 3-Drill and ream holes sections C-C as per DWG using DT10436 4-Deburr as per DWG. 5-Grind tube lightly if required to remove any marks left from the drilling process.

172 - Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order

174 - Ensure copy of NDT results attached to work order.

180 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

185 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

190 - ***MASK PRIOR TO PRIME AND PAINT AS PER NOTE 9*** *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** 1- PRIME INSIDE AND OUTSIDE PER QSI005 4.2.1.3.3 (FLOAT SKIDTUBE PRIMER)

BATCH: 2- PAINT OUTSIDE SURFACE AS PER QSI005 4.2.2.4 (FLOAT SKIDTUBE PAINT)

BATCH:

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D5609-1	EC130 Fwd Crosstube	1 Ea (1 ea)	100-Start up Operation	182094



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON, K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S112055



Part: D130-1048-141

Job No: 182067

Serial No/Batch: S112055

Revision: A7

Inspector:

Exp Date:

Instructions:

Date: 09/27/18

ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐



SITUATION

Rework ☐
Scrap ☐
Use-as-is ☐
Approved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
Large Fab ☐	Composite ☐	Supplier ☐	

QTY Effective :

MRB (QSI042) Approval

Description Work Order Deviation

Disposition

Completed By

Lead hand / Supervisor
Approval Verification

QC / QA Coordinator
Approval

Root Cause

Environment ☐	No Re-verification ☐
Design ☐	Operator ☐
Doc/Data ☐	Offset/Set-up ☐
Equip/Tooling ☐	Supplier ☐
Handling/Pre ☐	Training ☐
Material ☐	Use for Testing ☐
Internal Transport ☐	Poor Information ☐
Tribal Knowledge ☐	Rushing ☐
LOA ☐	Product Improvement ☐
Substation ☐	Process Improvement ☐
Past Expiry Date ☐	Manufacturing Process ☐
Misidentified ☐	Past Due ☐

FAULT CATEGORY

Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐

OTHER :

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Start up Operation	D5609-1	1	0	0

Part Specifications

Specifications could not be found.

Plex 9/24/18 2:43 PM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER :									

Specifications could not be found.

Plex 8/17/18 8:35 AM Dart.lajeunesse.marie



Container No: S112055



Part: D130-1048-141

Job No: 182067

Serial No/Batch: S112055

Revision: A6

Inspector:

Exp Date:

Instructions:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 813 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 09/20/18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

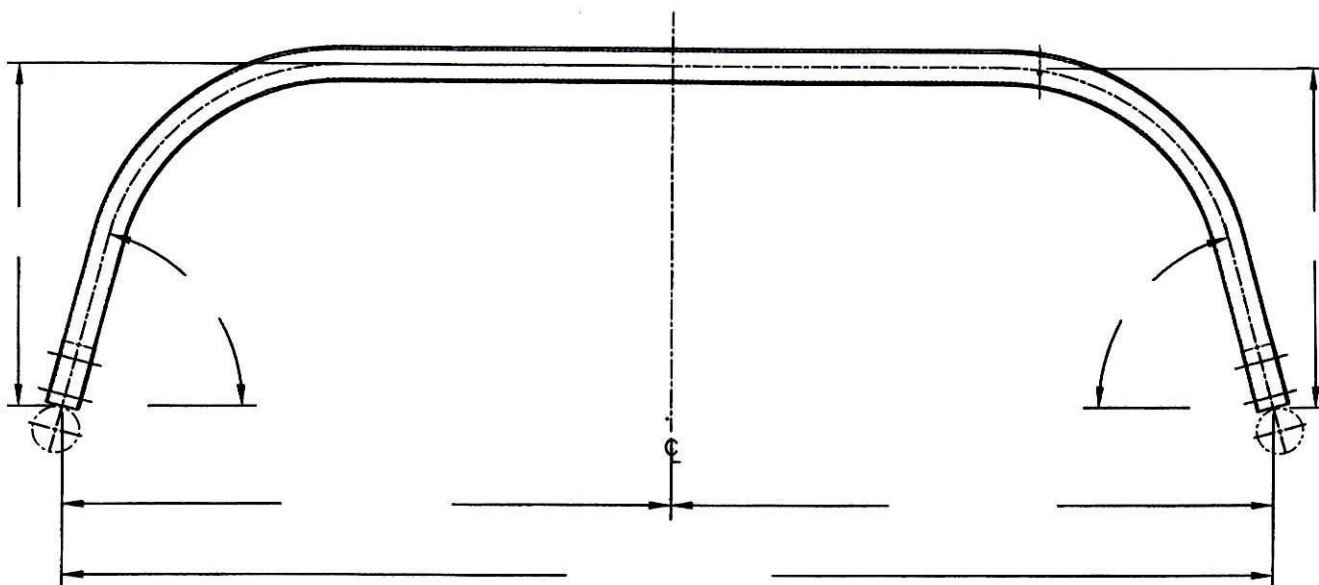
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

DART AEROSPACE LTD		Work Order: 152067
Description:		Part Number:
Inspection Dwg:	Rev:	Page 1 of 1

Required Dimension	Min	Max
Height		
1/2 Span		
Angle		
Total Span		
Bending Passes		
Crushing		



	Side A	Side B
Bending Passes		
Crushing		
Comments		

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A		New Issue		
B	06.09.19	Reformat; QC level revised	KJ/JM	
C	07.02.06	Reformat	KJ/JM	
D	12.02.15	Added bending passes and crushing	KJ	
E	12.03.07	Revised comments table	KJ	

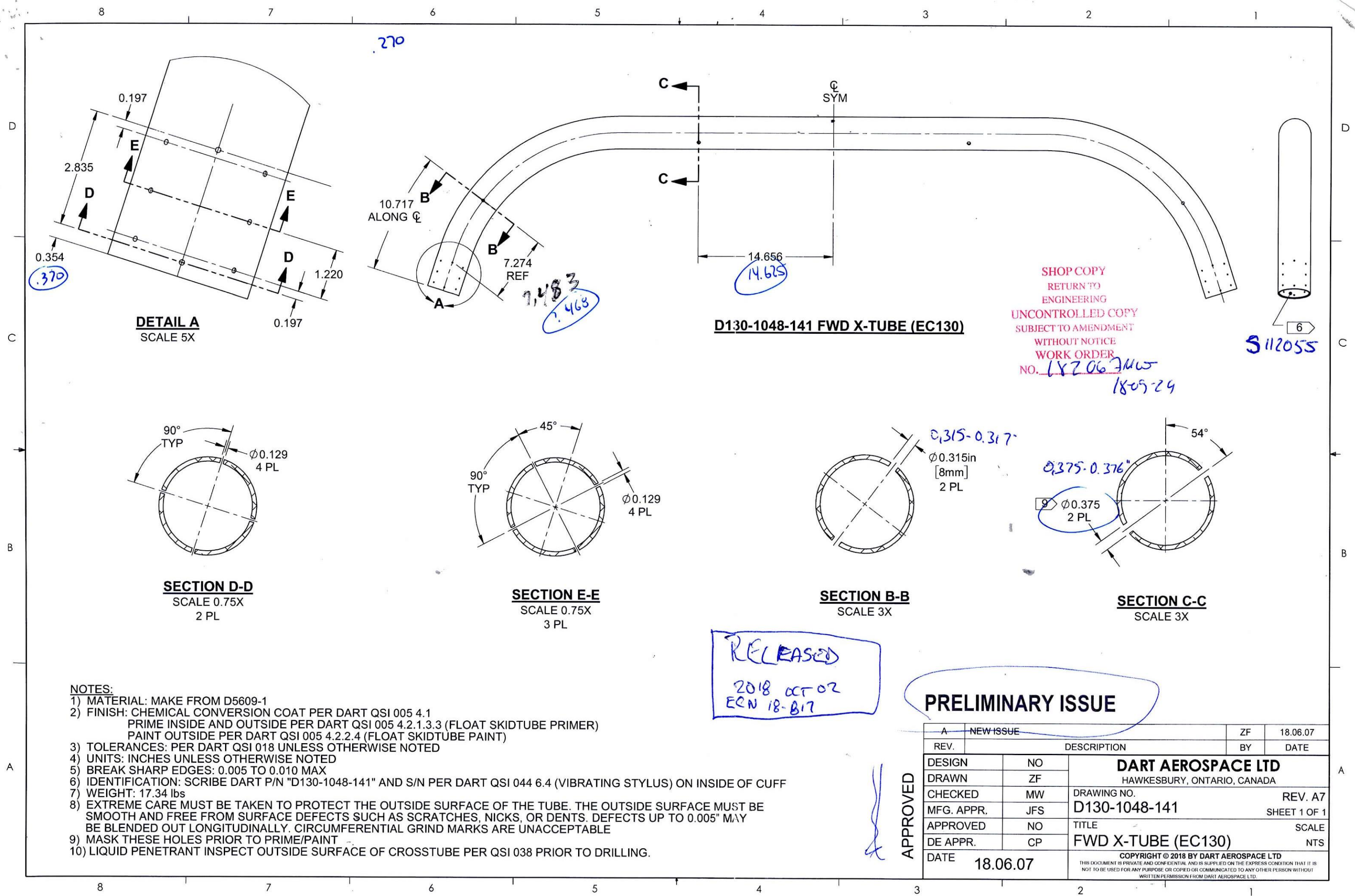
WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Water Jet ☐ Engineering ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Quality ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Large Fab ☐ Composite ☐ Supplier ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐				FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
OTHER :									



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 18206 JMW
1809-29

3112055

RELEASED
2018 OCT 02
ECN 18-B17

- NOTES:
- 1) MATERIAL: MAKE FROM D5609-1
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2.1.3.3 (FLOAT SKIDTUBE PRIMER)
PAINT OUTSIDE PER DART QSI 005 4.2.2.4 (FLOAT SKIDTUBE PAINT)
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: SCRIBE DART P/N "D130-1048-141" AND S/N PER DART QSI 044 6.4 (VIBRATING STYLUS) ON INSIDE OF CUFF
 - 7) WEIGHT: 17.34 lbs
 - 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE
 - 9) MASK THESE HOLES PRIOR TO PRIME/PAINT
 - 10) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038 PRIOR TO DRILLING.

PRELIMINARY ISSUE

A NEW ISSUE		ZF	18.06.07
REV.	DESCRIPTION	BY	DATE
DESIGN	NO	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	ZF		
CHECKED	MW	DRAWING NO.	REV. A7
MFG. APPR.	JFS	D130-1048-141	SHEET 1 OF 1
APPROVED	NO	TITLE	SCALE
DE APPR.	CP	FWD X-TUBE (EC130)	NTS
DATE	18.06.07	COPYRIGHT © 2018 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041100**

Supplier: SKY002-VC
SkyService
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

PO No: PO041100
PO Date: 9/21/18
Due Date: 9/25/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

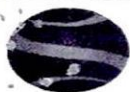
Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	182067	D130-1048-141	EC130 Fwd Crosstube ISSUE P/O: _____ NDT C OF C IS REQUIRED	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
	182064	1 X	SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
	182059	1 X	SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
	182065	1 X	SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
Sub Total:							4	0	4		\$535.00
2	182415	D130-1048-042	EC130 Skidtube Assembly, RH Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
	182418	1 X	SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
Sub Total:							2	0	2		\$267.50
3	182412	D130-1048-041	EC130 Skidtube Assembly, LH Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
	182413	1 X	SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
Sub Total:							2	0	2		\$267.50
Grand Total:										\$1,070.00	

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 9/27/18 10:09 AM dart.tsimiklis.chrisoula

**skyservice****Work Order Traveler**
Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO37535	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO041100
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:**CARRY OUT NDT ON:**

4 EC 130 FWD CROSSTUBES , P/N# D130-1048-141 , J/S# 182059 , 182064 , 182065 , 182067

2 EC 130 SKIDTUBE ASSY RH , P/N# D130-1048-042 , J/S# 182418 , 182419

2 EC 130 SKIDTUBE ASSY LH , P/N# D130-1048-041 , J/S# 182412 , 182413

Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417 REV. 16						SEP 21 2018	
NO CRACK FOUND							
PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923 , DEV. MPO11715 , UV LIGHT M-20142							
<i>Description</i>	<i>Location</i>	<i>P/N</i>	<i>Qty</i>	<i>Batch</i>	<i>S/N Off</i>	<i>S/N On</i>	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	ACA/SCA Stamp 	Date: SEP 21 2018
Name: RAFIK MELIKIAN		

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. <u>D130-1048-141</u>		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒		DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☒ Water Jet ☐ Supplier Quality ☐			
Date: <u>18/10/13</u>		Sequence #: _____		QTY Affected: _____		MRB (QS1042) DAS 12 9-89 <u>18/10/13</u>	
Description Work Order Deviation				Disposition			
- Primed on inside only. Prime was outsourced and is representative only. - 2nd LPI (step 172) not required.				Prime inside of cuff: P/O <u>P00041261</u> Acceptable to have representative prime only. 2nd LPI not required. No effect on Eng. Test.			
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled				FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details: _____				Completed By DAS 12 9-89 <u>18/10/13</u> Lead hand / Supervisor DAS 9 9-89 <u>18-10-05</u> QC / QA Coordinator DAS 9 9-89 <u>18-10-05</u>			

Entered: _____ Date: _____

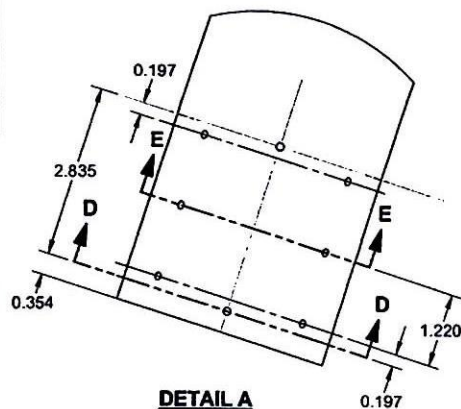


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

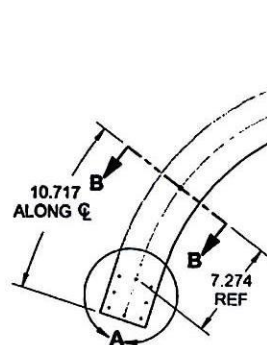
NCR No. _____

Route update only ☐

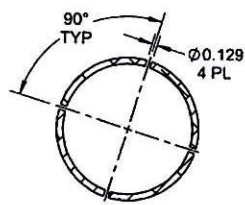
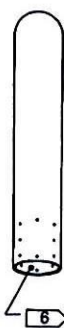
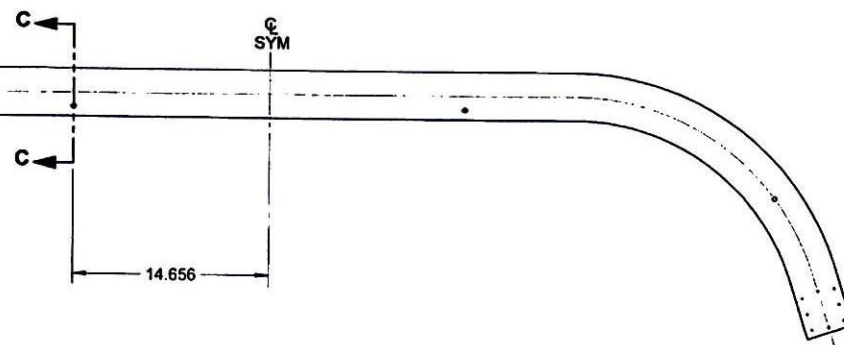
Job: <u>182067</u> Part No. <u>D130-1048-141</u>	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☒ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐					
Date : _____		Sequence #: _____		QTY Affected : _____		MRB (QSI042) DAS 12 9-89 <u>14/10/5</u>	
Description Work Order Deviation				Disposition			
Holes for fuel stop should be at 14.656 from CL, per Rev. A measured at 14.625				use as is, acceptable for testing			
				Completed By DAS 12 9-89 <u>14/10/5</u>			
				Lead hand / Supervisor DAS 9 9-89 <u>18-10-05</u>			
				QC / QA Coordinator DAS 9 9-89 <u>18-10-05</u>			
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread					
		Other/Details: _____					



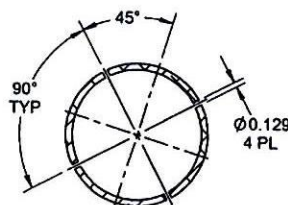
DETAIL A
SCALE 5X



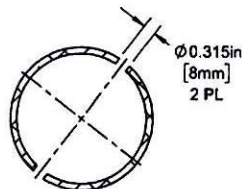
D130-1048-141 FWD X-TUBE (EC130)



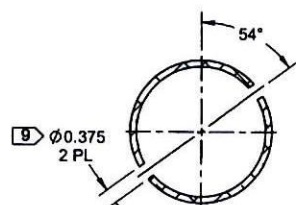
SECTION D-D
SCALE 0.75X
2 PL



SECTION E-E
SCALE 0.75X
3 PL



SECTION B-B
SCALE 3X



SECTION C-C
SCALE 3X

NOTES:

- 1) MATERIAL: MAKE FROM D5609-1
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2.1.3.3 (FLOAT SKIDTUBE PRIMER)
PAINT OUTSIDE PER DART QSI 005 4.2.2.4 (FLOAT SKIDTUBE PAINT)
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: SCRIBE DART P/N "D130-1048-141" AND S/N PER DART QSI 044 6.4 (VIBRATING STYLUS) ON INSIDE OF CUFF
- 7) WEIGHT: 17.34 lbs
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE
- 9) MASK THESE HOLES PRIOR TO PRIME/PAINT
- 10) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038 PRIOR TO DRILLING.

RELEASED

2018 OCT 02
EEN 19-817

APPROVED

A NEW ISSUE		ZF	18.06.07
REV.	DESCRIPTION	BY	DATE
DESIGN	NO	DART AEROSPACE LTD	
DRAWN	ZF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	MW	DRAWING NO.	REV. A
MFG. APPR.	JFS	D130-1048-141	SHEET 1 OF 1
APPROVED	NO	TITLE	SCALE
DE APPR.	CP	FWD X-TUBE (EC130)	NTS
DATE	18.06.07	COPYRIGHT © 2018 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			